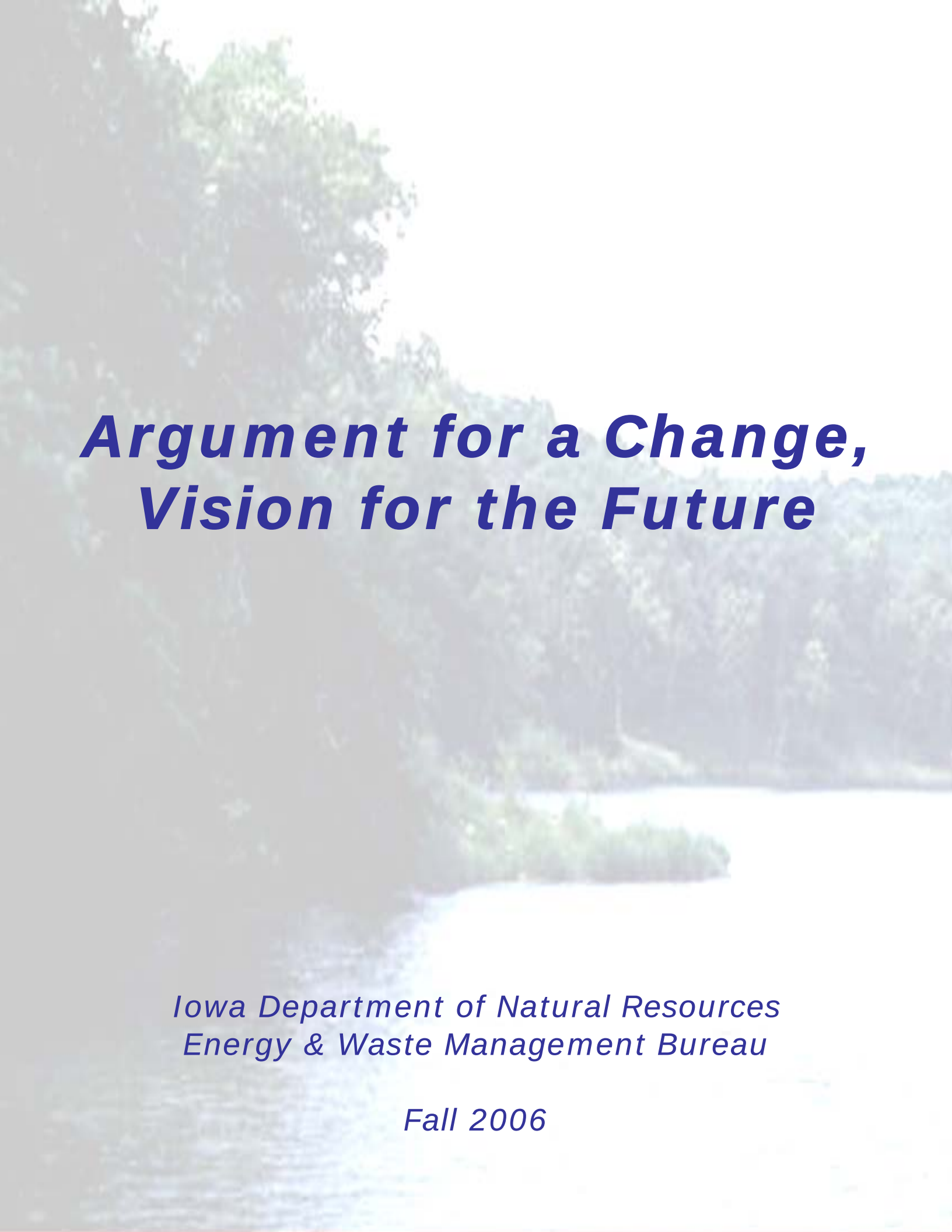

Argument for a Change, Vision for the Future

Iowa Department of Natural Resources
Energy & Waste Management Bureau

Fall 2006

EXECUTIVE SUMMARY

It's been almost twenty years since Iowa's ground breaking solid waste and recycling laws were enacted. The state's current waste management policy has driven state and local programs that have produced numerous accomplishments. But in terms of meeting the state's waste reduction and recycling goals, the latest data indicates we have hit a plateau and perhaps are even slipping. The trend of more recycling being counterbalanced by increases in waste generation and landfill amounts is seen at the state and national levels. Before continuing to invest in a system that, at best, is maintaining the status quo, we need to step back and assess where we are at and where we should be going as a state.

The challenges facing the current system start with the metric being used to evaluate environmental impacts from solid waste programs. The methodology compares a current year's landfill amount to a 1988 baseline for determining landfill diversion. It has served as a valid measurement. But its accuracy has diminished over time by factors that can't be considered in the calculation. And it does not take into account the value of programs such as reducing the amount of toxic materials going into landfills. The methodology can also be perceived as a barrier to positive policy initiatives such as reducing illegal dumping or open burning of trash since these may cause an increase in current landfill tonnage. Another sign that supports the need to re-evaluate how we are performing are the results from the state's latest waste characterization study. The data shows that almost 40% of the solid waste currently being landfilled can be recycled through existing programs or managed through landfill alternatives such as composting. These findings may be related to the fact that the principal source of funding for state and local waste reduction and recycling programs continues to be directly tied to the amount of solid waste landfilled within the state. This funding mechanism cannot sustain an integrated solid waste management system that should be driven by continuous improvement.

While continuing to support and build upon current successful programs, we need to transition our focus to one of resource management. In making this shift, we begin to view all materials as having an inherent value. A resource management hierarchy places the initial emphasis on materials "upstream" when a product is being designed, manufactured, packaged and delivered for consumption. Resource management is also a continuous improvement process where goals are dynamic and not pre-defined percentages or targets that become plateaus or even ceilings to environmental improvement. And resource management efforts support the broader goals of sustainability which are to continually improve Iowa's environmental performance while simultaneously improving our economy and quality of life.

This paper suggests that the vision of transitioning to a resource management system can be realized through policies and programs that support eight interconnected areas:

- **R**evamping the state's waste management hierarchy
- **E**mpowering local government "resource management" authorities
- **S**ustainable and equitable funding sources to support state and local programs
- **O**ptimize resource management efforts by focusing on commercial and industrial sectors
- **U**se statewide resources strategically to supplement and support local initiatives
- **R**evitalize mandates and regulations
- **C**ontinue to support and grow existing successful programs and strategies
- **E**nvironmental metrics that factor positive and negative impacts are used to evaluate resource management efforts and options

Argument for a Change, Vision for the Future

The original mandates of both Federal (1976 Resource Conservation and Recovery Act) and state (1987 Groundwater Protection Act, and 1989 Waste Reduction and Recycling Act) laws related to solid waste were designed primarily as a system of controls to protect human health and the environment[1]. To achieve these mandates, the states were provided the authority to regulate and enforce the management of wastes. But the scope of this authority has been limited to certain types of regulatory programs (i.e., facility permitting) and certain types of wastes (i.e., those addressed through land disposal restrictions). While both state and Federal laws have conservation of resources, waste reduction, and recycling components, they contain little authority and incentives for diverting materials from landfilling.

Protection of human health and the environment remain valid objectives and will continue to be so. But we now have almost two decades of experience with waste management and it's evident that the landscape has changed over that time. The state's current waste management policy and programs have produced numerous accomplishments at the state and local levels particularly within the residential sector. But in terms of meeting the state's waste reduction and recycling goals, the latest data indicates we have hit a plateau and perhaps are even slipping from the 36% figure the state achieved in 2000. The trend of more recycling being counterbalanced by increases in waste generation and landfill amounts is seen at the state and national levels.

In Biocycle's 2006 "The State of Garbage In America" 28.5% of the municipal solid waste (MSW) generated in the U.S in 2004 (latest year of data) was recycled or composted.[2] This was an 11% increase from the previous year of record (2002). During this same time period the amount of MSW generated increased 5% (from 369 million tons to 388 million tons) and the MSW managed through landfilling increased 3% (242 million tons to 249 million tons). The data begs the question, "What is the ultimate goal of our current waste management system?" If it's to recycle as many tons as possible then increased MSW generation could assist toward that goal. If the main impetus is to reduce what has to be managed at the end of pipe then the current MSW system has a flaw in its inability to impact waste generation. This is exacerbated in that much of the waste being generated is in the form of product waste that the more traditional recycling programs are unsuited to manage. This results in the landfilling of valuable engineered materials and products that may have hazardous components.

Going beyond municipal solid waste and looking at all wastes generated, the consumption aspect is even more pronounced. When considering all facets of production (manufacturing, mining, oil and gas extraction, coal combustion, agricultural activity, etc.) 71 pounds of waste is produced for each pound of finished product.[3] The percentage of total North American materials flow that ends up in and is still being used within a product after six months from sale is 1%.[4]

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[1] See Appendix A: Legislative Background

[2] Phil Simmons, Nora Goldstein, Scott M. Kaufman, et al., "The State of Garbage in America," BioCycle April 2006: 26+.

[3] John E Young and Aaron Sachs, "The Next Efficiency Revolution: Creating a Sustainable Materials Economy," Worldwatch Institute [Washington, DC] 1994: 13.

[4] Paul Hawken, Amory B. Lovins, and L. Hunter Lovins, "Natural Capitalism: Creating the Next Industrial Revolution," Little Brown & Company 1999: 52. (downloadable at www.natcap.org)

Before continuing to invest in a system that at best seems to be maintaining the status quo, we need to step back and ask, "Is it time for a change?"

CHALLENGES WITH THE CURRENT SYSTEM

Waste diversion calculation[5]

Local governments' and landfill agencies' progress toward meeting the state's waste reduction and recycling goals is calculated on a comprehensive planning area basis[6]. There are currently 46 planning areas and the latest goal progress data (FY 2004) shows the following:

- 5 have exceeded the 50% goal.
- Another 21 planning areas have met or exceeded the 25% goal.
- 20 have not met the 25% goal;

The state's goal progress status is calculated from a compilation of the data for the 46 planning areas. The following shows the reduction percentage for the 1994 and 2000 goal years as well as the most recent fiscal year where data was formally submitted and reviewed.

- FY 1994 28%
- FY 2000 36%
- FY 2004 29%

The current methodology used to demonstrate progress toward the state goals limits the ability to accurately assess the accomplishments and environmental benefits of integrated solid waste management in Iowa.

- In the base year of 1988, only 12 MSW landfills used scales. Accordingly, most base-year tonnage data was derived from per capita estimates or cubic yard conversion factors. There have been corrections and adjustments over time to baseline data due to installation of scales and to account for changes in population, employment and industrial production. Trying to explain the 1988 baseline data in 2006 becomes very confusing and some question the validity of the methodology.
- Between the years 1993 (first year of landfill data based on scale measurements) and 2004 the actual amount of solid waste landfilled increased by 30% yet the state's goal progress status shows a 29% diversion rate. This can be explained in that the e methodology accounts for changes in population and economic factors. In comparing the diversion rate to the increase in actual landfill tonnage, one may conclude that the intent of the original law is not being fulfilled.
- The department permits in-state transfer stations that haul to landfills outside of the state. All permitted transfer stations are required to submit quarterly tonnage reports on the amount of waste being landfilled. However, planning areas are not able to accurately track waste that is shipped to out of state landfills by direct haul via waste collection trucks. This is due to interstate commerce issues and the lack of having a permitting or licensing requirement for haulers. By omitting this landfill tonnage from the methodology it appears the state is diverting more solid waste from landfilling than is the actual case. For example, if "unaccounted" tonnage[7] is included in FY 2000 and 2005 data, the state's diversion rate is

[5] See Appendix D: Waste Reduction and Recycling Goal Progress Methodology (IAC 567-101.7)
[6] See Appendix C: Solid Waste Comprehensive Planning Areas' Map and Descriptions
[7] Calculated as follows: Total tonnage of Iowa waste being landfilled in Illinois (from Illinois EPA) minus known waste going through permitted Iowa transfer stations to Illinois landfills equals "unaccounted tonnage.

32% and 22% respectively. This shows the same downward trend as the planning areas' compilation dataset but also indicates this may be occurring at a greater rate.

- The methodology assumes no changes in the percentage breakdown of the wastestream since 1988 in terms of commercial/industrial vs. residential. This impacts the accuracy of the measure since the factors used to adjust the 1988 baseline tonnage for economic changes relies upon this breakdown.

Other Issues Related to Measuring Integrated Solid Waste Management Impacts

- Current system does not consider all of the environmental benefits from proper waste management such as toxicity reduction through the state's Household Hazardous Materials educational program and Regional Collection Centers (RCCs)[8]. Currently there are 17 RCC facilities that to varying degrees serve 76 of the state's 99 counties. In the 2005 fiscal year this program diverted 2.9 million pounds of household hazardous waste from landfilling. From a landfill diversion aspect the 1,450 tons does not seem significant. But the environmental benefits of this program go beyond landfill avoidance.
- Where there are programs that discourage onsite burial of wastes, illegal dumping, and open burning of residential trash, the methodology actually penalizes the planning area for these positive activities since the amount of waste being landfilled increases.
- The mindset in planning within the current system is often to view the 50 percent goal as the performance ceiling or the desired endpoint. This limits the scope of the investigation and implementation of alternatives.
- There is significant landfill diversion credited to low-value applications of recycling. These activities include using beneficial uses at landfill facilities, land reclamation projects, and land applying industrial waste byproducts.
- By focusing only on landfill diversion other environmental, economic and societal costs and benefits are not factored into the equation. This includes not only end-of-the-pipe/post-consumer aspects of waste management but also the costs and savings associated with the manufacturing and distribution of products in terms of:
  - Mineral extraction
  - Resource depletion
  - Energy and water use
  - Water and air quality

Additional Waste Reduction and Recycling Opportunities

According to the February 2006 "Iowa Statewide Waste Characterization Study" report, 18% of all the materials still being landfilled in the state are comprised of three items:[9]

- old corrugated cardboard (180,612 tons 6.7% of landfilled waste),
- mixed recyclable paper (148,187 tons; about 6% of landfilled waste),
- plastic film/wrap/bags (139,344 tons; 5.2% of landfilled waste)

Organic materials that have great potential to be diverted from landfilling include:

- food waste (225,095 tons; almost 8.5% of landfilled materials)
- compostable papers (138,005 tons; 5.2% of landfilled materials)
- wood (176,860 tons; 6.6% of landfilled materials)

[8]. See Appendix F: Map of State's Household Hazardous Materials Regional Collection Center Network

[9] R.W. Beck and Iowa Department of Natural Resources, Iowa Statewide Waste Characterization Study February 2006.

In addition to these materials, wastes related to renovation, construction and demolition activities comprise 19% or 516,646 tons of what is currently being landfilled.

The study shows there are untapped opportunities for significant additional landfill diversion. And the greatest gains could be achieved by targeting the high-volume materials noted in the waste characterization study results.

Under current law, local governments are mandated to be the principal responsible parties for implementing reduction and recycling programs. Many of these entities feel they don't have the authority or responsibility for addressing solid waste management issues within the commercial and industrial sectors. Therefore, landfill diversion programs implemented at the local level have been primarily directed at residential waste generators. And data indicates that these programs have been quite successful. The status of the state's progress toward the waste reduction and recycling goals increased from 28% to 36% between the 1994 and 2000 goal years. During this same time period, the number of municipal curbside recycling programs grew from 240 to 608.

Residential recycling programs should continue to be monitored to ensure that landfill diversion is maximized from this sector. However, any additional significant waste reduction and landfill diversion in the future must come from the commercial and industrial sectors where over two-thirds of the waste currently being landfilled is generated.

Problems Associated with Current Funding for Statewide and Local Programs[10]

Solid waste tonnage fees collected at Iowa landfills currently fund most of the state's solid waste programs as well as contributing to the funding of local programs through the portion of the tonnage fee retained by landfill agencies. This fiscal strategy has provided a relatively stable source of funding; however, it has several inherent limitations.

- First, this system requires garbage to be landfilled to have funding for state and local waste reduction and recycling programs. Intuitively this funding scheme seems disconnected and counter-productive.
- Second, only waste landfilled in Iowa is subject to the tonnage fee. Waste going to out-of-state landfills either through a permitted transfer station or direct haul is exempt from the fee. Citizens, businesses and local governments not paying tonnage fees are directly or indirectly benefiting from state programs funded by the fee.
- Third, landfills are only one of many solid waste management facilities[11] involved in an integrated system. That means the fees collected at the 59 permitted municipal solid waste landfills (MSW) in the state are subsidizing the permitting and inspection costs for 174 sanitary disposal projects that are not subject to the fee. In addition, tonnage fees remitted to the department by MSW landfills fund all other aspects of both the central and field office solid waste staff including investigating complaints, information dissemination, and providing oversight to solid waste management activities that are regulated but don't require a permit.

The total tonnage fee collected by landfills is 8% higher today than in 1993 due to the increase in waste being landfilled. In the same time frame, the amount of tonnage fees remitted to the department for funding statewide solid waste permitting programs along with waste reduction,

[10] See Appendix E: Summary of State Funding for Solid Waste Programs
[11] See Appendix B: Summary of State's Solid Waste Management Facilities

recycling and pollution prevention programs and services have decreased by 15%. This is due to planning areas' success in meeting the state's landfill diversion goals and legislative changes that have increased the amount of the fee that can be retained at the local level.

An increase in current funding or use of alternative funding options that are sustainable and equitable is needed. This is not only to address the currently non-funded solid waste environmental protection programs administered by the department but to be in a position to proactively manage new emerging waste streams, such as electronic wastes, unused pharmaceuticals, mercury containing devices, etc. Additional funding is needed to expand or develop programs that support the transition in emphasis from the residential sector to the commercial, industrial and institutional sectors. It is not feasible to expect local solid waste agencies to have the resources to take on these new challenges. For many programs, regional or statewide efforts will be the most effective. And any new funding scheme should be designed with incentive or disincentive mechanisms to provide a more strategic approach for supporting waste management policies.

Ideally, the true cost for landfilling should be passed on to generators. But economic factors often prevent this from being a reality. Fifty-four of Iowa's 59 MSW sanitary landfills are operated by public solid waste agencies whose membership is comprised of local governments. The landfill tipping fee is the primary revenue source for funding not only the landfill operation but also local recycling, yard waste, and household hazardous materials programs. The average tipping fee for the state is $35.84 per ton. In many cases, this is not adequate for fully funding an integrated solid waste management system. If a landfill's tipping fee gets too high, haulers may elect to take the waste to out-of-state landfills. Therefore, many agencies supplement the tipping fee with other funding streams such as per capita assessments. Besides not being able to have tipping fees reflect the actual cost of disposal, public agencies are always walking the fine line of ensuring that their revenue flow is adequate to fund both the landfill operation and diversion programs. As we are experiencing, the economics of such a system will result in landfill diversion eventually reaching a plateau.

A VISION FOR THE FUTURE: INTEGRATED RESOURCE MANAGEMENT

Waste is, by definition, inefficiency. Something was not fully utilized. Something was not added into the final value of a product. Too often we don't consider how to manage by-products from manufacturing processes or discards from consumers until they are a waste. Waste has a negative value and is thus limited to a few landfill alternative options.

While continuing to support and build upon current successful programs, we need to transition our focus to one of resource management. In making this shift, all materials including by-what we classify as by-products must be considered to have an inherent value. In a waste management mode the main economic drivers in decision making are the disposal and avoided disposal costs. A resource management hierarchy would place the initial emphasis on materials "upstream" when a product is being designed, manufactured, packaged and delivered for consumption. Resource management is also a continuous improvement process where goals are dynamic and not pre-defined percentages or targets that become plateaus or even ceilings to environmental improvement. And resource management efforts support the broader goals of sustainability which are to continually improve Iowa's environmental performance while simultaneously enhancing our economy and quality of life.

To transition to a resource management system, we need to develop tools and strategies that support the following eight interconnected areas:

- **R**evamping the state's waste management hierarchy
- **E**mpowering local government "resource management" authorities
- **S**ustainable and equitable funding sources to support state and local programs
- **O**ptimize resource management efforts by focusing on commercial and industrial sectors
- **U**se statewide resources strategically to supplement and support local initiatives
- **R**evitalize mandates and regulations
- **C**ontinue to support and grow existing successful programs and strategies
- **E**nvironmental metrics that factor positive and negative impacts are used to evaluate resource management efforts and options

Revamping the state's waste management hierarchy

The state's waste management hierarchy should be redefined to create a more integrated and robust resource management hierarchy. "Pre-cycling" that considers the value of input materials based on life-cycle analyses should be at the top. During the 2006 legislative session, there was an initial re-visiting of the hierarchy that resulted in amending it to include refuse-derived fuel as a form of recycling for the purpose of demonstrating progress toward the state goals. This examination needs to be expanded to move beyond "end-of–the-pipe" management techniques.

Empowerment of local government authorities

Local governments currently manage waste through comprehensive planning process. Currently, solid waste agencies have little regulatory power outside of landfill operation policies and procedures. To ensure resource management efforts are adopted and effective, planning areas need to be transformed from a loose assembly of cities and counties to explicitly empowered local government authorities. To do this the following changes need to be made:

(1) Local resource management authorities must have clear enabling legislation giving them the power to regulate all solid waste, including commercial/industrial, within their jurisdiction, including the power to pass ordinances.

(2) Resource management authorities should have the ability to fund themselves and programs by fees that affect waste generators and can serve as disincentives for land disposal or incentives for waste reduction and pollution prevention activities. To ensure due process, a representative board consisting of elected officials and their appointments should govern these authorities.

(3) The department's role in comprehensive planning should be transformed to reflect the creation of local government authorities. A state plan should be mandated and developed with the goal of setting the direction of resource management objectives. The department should coordinate efforts between local resource management authorities and to serve as a conduit between local programs and statewide programs. The state should audit the local authorities' planning results to ensure that they support and advance the broad goals established in the state resource management plan.

Sustainable and equitable funding sources to support state and local programs

1) Place the tonnage fee on all waste generated within Iowa that is landfilled. This would apply to wastes leaving the state via permitted transfer stations.
2) Taking the previous point one step further, replace tonnage fee with a generator fee on all waste collected in Iowa. This would ensure that the economic incentive to recycle is applied

to all waste generators regardless of the landfill being used for final disposal or how the waste is transported to the final disposal site.

3) Allow the department to charge permit fees that cover the cost of regulating facilities. Such fees will ensure funding for inspections and regulatory action at all facilities. Presently all funding for regulatory activities is derived from landfill tonnage fees. But landfills are only one of many types of permits being issued within integrated management systems.[12]

Optimize resource management efforts by focusing on commercial and industrial sectors

The majority of waste in Iowa (70%) is produced by the commercial and industrial sectors. To optimize resource management efforts, the following changes are recommended:

(1) Product stewardship needs to be encouraged and rewarded. Product stewardship is a principle that directs all participants involved in a product's life cycle to take a shared responsibility for the impacts to human health and the environment that result from the production, use and end-of-life management of the product. The objective of product stewardship is to encourage manufacturers to redesign products with fewer toxics, and to make them more durable, reusable, and recyclable and with recycled materials. Although product stewardship efforts have focused on waste management problems it also needs to include sustainable production practices.

(2) Recycling of products should be seen as an extension of the product marketing and not that of the municipal solid waste management system. Ideally, the stakeholders for a given product will work together to develop the most effective and efficient system for recycling that product. There are a wide variety of models currently being used such as reverse logistics, return to retailer, incorporation of the recycling costs into the cost of the product, advance recycling fees, voluntary agreements, third-party organizations, etc.

(3) The implementation of environmental management systems (EMS) that commit companies to voluntarily establishing performance standards, environmental goals, etc. needs to be promoted. Incentives for adopting EMSs should be considered in both the regulatory and assistance services of the department.

(4) Performance based resource management contracting and services need to be encouraged and promoted. This would allow both service companies and generators to receive financial rewards through higher levels of waste reduction and pollution prevention.

Use statewide resources strategically to supplement and support local initiatives

1) Focus the Solid Waste Alternatives Program (SWAP) on those sectors and waste streams where the biggest environmental gains can be attained.
2) Bundle supporting and complementary services that are applicable to specific sectors to achieve maximum effectiveness. For example, the Iowa Waste Exchange, DNR's Pollution Prevention Services and other business waste reduction assistance efforts should be marketed jointly to commercial and industrial sectors' customer groups.

Revitalize mandates and regulations

The Groundwater Protection Act and Waste Reduction and Recycling Act were instrumental in transforming Iowa's waste management infrastructure. Now that these laws have been in effect for almost 20 years, it is time to revisit and revitalize those provisions that have proven to be effective while eliminating or revising those that are no longer relevant, feasible, or may be barriers to implementing resource management concepts.

[12] See Appendix B: Summary of State's Solid Waste Management Facilities

(1) Laws and rules need to be reviewed to ensure that they are not barriers to moving materials from a waste to a resource, and are balanced to provide for public health and environmental protection without stifling infrastructure development.
(2) Beneficial use of solid waste determinations must be structured so that higher uses are given a preference and are not deterred by regulations that allow for lower valued marginal disposal applications.

Continue to support and grow existing successful programs and strategies

Programs that are proven to be effective tools should be given further support or even mandated. The following changes are suggested: Currently there are 662 municipalities that have curbside recycling programs available to their residents. In addition, there are 506 recycling drop off sites located throughout the state. The waste characterization study results imply that a closer examination of these programs at the local level may be warranted to determine if the participation and recovery rates for materials accepted in the programs are maximized.

(1) Mandatory garbage and recycling collection should be required of all households, including unincorporated areas. Making such collection mandatory removes the incentive for illegal dumping and makes recycling as convenient as possible.
(2) Ban the open burning of residential waste. One household burning waste creates more pollution than a permitted waste-to-energy facility servicing thousands of homes. In addition to polluting air quality, resources that can be put to higher uses (i.e., recycling, composting) are wasted.
(3) Encourage the use of full cost accounting so that garbage collection and disposal fees accurately reflect the true cost of disposal. All user fees for solid waste collection and management services should be on a per unit basis with the fees established by full-cost accounting principles.
(4) The state's Household Hazardous Materials program and Regional Collection Centers' network need to be better supported and expanded to provide more convenience to households and Conditionally Exempt Small Quantity Generators.
(5) DNR's Pollution Prevention (P2) Intern program should be expanded through additional funding streams. This program is a proven tool for assisting Iowa's businesses and industries to become more efficient while reducing their environmental impacts.

Environmental metrics that factor positive and negative impacts are used to evaluate resource management efforts and options

The current measurement system for planning areas compares the percent reduction of the current annual landfilled tonnage to the tons landfilled in 1988. It would be more effective to use an environmental metric that incorporates all impacts of an integrated system, such as energy consumption, and air, surface water, groundwater, and soil contamination. Thus, the following changes are suggested:

(1) Update the waste diversion calculation to create a new, more comprehensive methodology for identifying and measuring environmental impacts of the local resource management system.
(2) Use the new methodology to quantify environmental impacts and risks based on the technologies and management techniques within a new, more integrated resource management hierarchy.
(3) The new methodology should factor in all positive and negative impacts from the initial mining and transport of the materials that are inputs for production processes, through the distribution and consumption phases, and finally to the phase where the product can no longer be reused or refurbished for its intended use. At that time recycling and

demanufacturing practices would allow for the continued use of the materials as a resource rather than a waste.

(4) The new methodology should compare and rank a local resource management authority's environmental performance against all other authorities. The system should give strong incentives for being ranked near the top. By using a competitive system with incentives and disincentives, there may be a push for continual improvement rather than setting plateaus at defined levels of progress (e.g. 25% and 50% landfill diversion).

(5) The use of environmental management system (EMS) concepts with third party auditing should be promoted and progress toward an entity's short-term and long-term goals should be used to determine environmental performance.

In conclusion, Iowa has made great progress in waste diversion throughout the 1990's and the first half of this decade due to a combination of regulation, investment in private and public infrastructure, and the implementation of local recycling programs targeted at the residential sector. It is time to support and build upon our past success while transforming from waste management systems to a broader resource management system perspective. The strategies recommended in this document can make this vision a reality for Iowa.

APPENDICES

A. Legislative Background

B. Summary of State's Solid Waste Management Facilities

C. Solid Waste Comprehensive Planning
   1. Planning Area Map
   2. Planning Area Descriptions

D. Waste Reduction and Recycling Goal Progress Methodology (IAC 567-101.7)

E. Summary of State Funding for Solid Waste Programs

   1. Tonnage Fee Distribution Fact Sheet
   2. Landfill Tonnage and Fee Data FY 93-05
   3. Solid Waste Tonnage Fee Receipts FY 88-05
   4. Solid Waste Fund Cash Flow FY 88-06
   5. Solid Waste Administration Account Cash Flow FY 88-06
   6. Solid Waste Alternatives Program (SWAP) Cash Flow FY 88-06
   7. Household Hazardous Materials (HHM) Account Cash Flow FY 88-06
   8. Waste Tire Account Cash Flow FY 94-06

F. HHM Regional Collection Centers' Map

APPENDIX A: LEGISLATIVE BACKGROUND

Prior to 1975, there were numerous private dumps located throughout Iowa along with approximately 2,000 town dumps that allowed open burning and burial of waste, including hazardous waste. Federal regulations promulgated in the 1970s and adopted by the state required these sites to be replaced with permitted sanitary landfills.

The Groundwater Protection Act passed by the Iowa Legislature in 1987 addressed a multitude of groundwater contamination threats. To promote the goals of protecting the health, safety and welfare of Iowans, protecting the environment, and using natural resources in a more effective and beneficial manner, the following waste management hierarchy, in descending order of preference, was established as the solid waste management policy of the state:

1. Volume reduction at the source.
2. Recycling and reuse
3. Combustion with energy recovery and refuse-derived fuel.
4. Combustion for volume reduction.
5. Disposal in sanitary landfills.

Other significant solid waste related provisions in the legislation included:

- Landfills were required to develop solid waste comprehensive plans that demonstrated alternatives to landfilling, consistent with the state waste management hierarchy, were being examined and implemented.
- The issuance and renewal of sanitary disposal project permits were coupled with approved comprehensive plans.
- A funding source for groundwater protection and solid waste management activities was created by increasing the state solid waste tonnage fee from $.25 per ton to $4.25 per ton through a five-year phase-in.
- Funding at the local level was provided through landfill agency's ability to retain $.95 per ton of the collected $4.25 fee.

The 1989 Waste Reduction and Recycling Act had three major provisions that further promoted the implementation of the state's waste management policy.

- Solid waste comprehensive planning was no longer solely the responsibility of landfill agencies. Every city and county had to comply with the planning requirement. Compliance was to be demonstrated through plan submittals filed by landfill agencies in conjunction with all local governments who have designated the landfill as the final disposal site for waste generated within their boundaries.
- The legislation provided a metric as to the extent Iowans needed to reduce their reliance on landfilling. Using the amount of solid waste landfilled in 1988 as a baseline, the goal of the state was to reduce the amount of solid waste being landfilled 25% by July 1, 1994 and 50% by the year 2000 through the practices of waste reduction at the source and recycling.
- Whole tires, yard waste, used oil, and lead-acid batteries were banned from landfilling.

As originally passed, the only consequence for failing to demonstrate progress toward the state goals was that after July 1, 1997 no landfill permits would be issued or renewed unless the alternatives to landfilling described in a planning area's comprehensive plan were fully implemented. In 1994, the legislature established a system of incentives and disincentives

related to goal attainment using the state solid waste tonnage fee as the mechanism. Planning areas that fail to meet the 25% goal must submit $.50 per ton in additional fees to the department. In addition, a menu of specific solid waste management programs and activities are required to be implemented in these planning areas. Meeting the 25% goal results in removing $.50 per ton from the amount remitted to the department. The remitted tonnage fee is reduced by an additional $.50 per ton if the planning area met or exceeded the 50% goals.

The legislation also revised the state waste management hierarchy to make it consistent with how progress toward the state goals is to be met. The five tiers of the hierarchy were condensed to three. Volume reduction at the source, and recycling and reuse remained on the top two tiers. Combustion, included waste-to-energy, landfilling and “other approved techniques” comprised the third tier.

APPENDIX B: SUMMARY OF STATE'S SOLID WASTE MANAGEMENT FACILITIES

In the 1988 base year, there were 86 permitted municipal solid waste (MSW) landfills in the state. Currently there are 59. The majority (17) of the landfill closures occurred before July 1, 1993 when more stringent closure and post-closure regulatory requirements became effective. Along with the implementation of stricter landfill regulations, the Department has promulgated a series of rulemakings that have resulted in the adoption of new programs designed to regulate specific waste streams and their associated management facilities' operations. In just the last seven years there have been 35 separate rulemakings. In the majority of these cases, the rulemaking was necessary to address new and evolving issues.

In addition to the 59 permitted MSW landfills in the state, the department has regulatory oversight of 233 solid waste management operations broken down as follows:

- Industrial Landfills (21) – (Coal Combustion Residue-12, Foundry Sand-3, Landfill managing a single business's own waste-6)
- Construction & Demolition Landfills (4)
- Transfer Stations (30)
- Incinerators (5) – medical waste or facility managing a single business's own waste
- Material Recovery Facilities (3)
- Regional Household Hazardous Waste Centers (17)
- Appliance Demanufacturing Facilities (76)
- Cathode Ray Tubes Recycling Facilities (3)
- CRT Collection Sites (21)
- Waste Tire Processing and Storage Facilities (6)
- Compost Facilities (10)
- 38 Land Application Permits (each permit covers multiple sites; currently almost 700 sites regulated under these permits)

There are a number of other facilities, most notably yard waste and animal mortality composting and recycling processing facilities that are permitted by rule. In addition, the department administers the waste tire hauler registration program. There are currently 31 registered companies.

APPENDIX C: SOLID WASTE COMPREHENSIVE PLANNING

Comprehensive Planning Area Descriptions

Adair County Sanitary Landfill & Recycling Center Commission: All communities of Adair, Casey, Bridgewater, Fontanelle, Greenfield, Menlo, Orient, Stuart and all unincorporated area in Adair County. The communities of Adair, Casey and Stuart are located in Adair and Guthrie County. The community of Menlo is located in Guthrie County. (Last Updated: 2/18/2006)

Allamakee County Solid Waste Agency: All cities, excluding Postville, and the unincorporated area in Allamakee County. (Last Updated: 8/12/2005)

Bi-State Regional Planning Area-Iowa Region: All cities and the unincorporated area in Cedar County; all cities and the unincorporated area in Clinton County; all cities and the unincorporated area in Jackson County; all cities and the unincorporated area in Muscatine County; and all cities and the unincorporated area in Scott County. (Last Updated: 7/1/2005)

Cass County Environmental Control Agency: All cities and the unincorporated area in Cass County. (Last Updated: 4/28/2006)

Central Disposal Systems: All unincorporated areas in Hancock County; all unincorporated areas and the cities of Lake Mills, Leland, Rake, Scarville, and Thompson in Winnebago County; and all unincorporated areas and the city of Fertile in Worth County. (Last Updated: 3/31/2006)

Central Iowa Solid Waste Management Association: All cities and the unincorporated area in Boone County; all cities, excluding Jefferson, and the unincorporated area in Greene County; all cities, Ames, Cambridge, Colo, Gilbert, Huxley, Kelley, Maxwell, McCallsberg, Nevada, Roland, Slater, Story City, Zearing and the unincorporated area in Story County; the Cities of Bouton, Granger, and Woodward in Dallas County; and the Cities of Farnhamville, Lohrville, and Somers in Calhoun County. Note that several general comments made on the IDNR Survey Forms and submitted by the local Cities and Counties were not included in this database when entered by IDNR. (Last Updated: 4/7/2006)

City of Sioux City Solid Waste Planning Area: The city of Sioux City in Woodbury County. (Last Updated: 7/1/2005)

Clarke County Landfill Commission: All cities and the unincorporated area in Clarke County. (Last Updated: 7/1/2005)

Des Moines County Regional Solid Waste Commission: All cities and unincorporated area in Des Moines Co.; Mount Pleasant, Mount Union, New London, Rome, Salem, Westwood, and Winfield in Henry County; and Morning Sun in Louisa County. (Last Updated: 11/14/2005)

Dickinson County Sanitary Landfill: All cities and the unincorporated areas of Dickinson County, Iowa, excluding the cities of Superior and Terrill; and the City of Armstrong in Emmet County, Iowa. (Last Updated: 7/1/2005)

Dubuque Metropolitan Area Solid Waste Agency: All cities and the unincorporated area in Delaware County; all cities and the unincorporated area in Dubuque County; the cities of Edgewood and Strawberry Point in Clayton County; and the city of Zwingle in Jackson County. (Last Updated: 3/24/2006)

East Central Iowa Council of Governments (ECICOG): All cities and the unincorporated area in Benton County; all cities, excluding Victor, and the unincorporated area in Iowa County; all cities and the unincorporated area in Johnson County; all cities and the unincorporated area in Jones County; all cities and the unincorporated area in Linn County; all cities and the unincorporated area in Tama County; and the Cities of Kalona and Riverside in Washington County. (Last Updated: 7/1/2005)

Fayette County Solid Waste Management Commission: All cities and the unincorporated area in Fayette County. (Last Updated: 7/1/2005)

Floyd-Mitchell County Solid Waste Management Agency: All cities, excluding Lawler, and the unincorporated area in Chickasaw County; all cities, excluding Nora Springs, and the unincorporated area in Floyd County; all cities and the unincorporated area in Mitchell County; and the Cities of Chester, Elma, and Riceville in Howard County. (Last Updated: 7/1/2005)

Fremont County Planning Area: All cities and the unincorporated area in Fremont County (Last Updated: 7/1/2005)

Great River Regional Waste Authority: The City of Hillsboro and the unincorporated area in Henry County; all cities and the unincorporated area in Lee County; and all cities and the unincorporated area in Van Buren County. (Last Updated: 7/1/2005)

Harrison County Landfill Commission: All cities and the unincorporated area in Harrison County, and the City of Neola in Pottawattamie County. (Last Updated: 7/1/2005)

Ida County Planning Area: All cities and the unincorporated areas of Ida County (Last Updated: 7/1/2005)

Iowa Northland Regional Council of Governments (INRCOG): All cities and the unincorporated area in Black Hawk County; all cities and the unincorporated area in Bremer County; all cities and the unincorporated area in Buchanan County; and all cities and the unincorporated area in Grundy County. (Last Updated: 7/1/2005)

Iowa Waste Systems Association: The cities of Carson, Carter Lake, Cresecent, Council Bluffs, Hancock, Macedonia, McClelland, Oakland, Treynor, Underwood, Walnut, and the unincorporated areas in Pottawattamie County; and the cities of Emerson, Glenwood, Hastings, Henderson, Malvern, Pacific Junction, Silver City , and the unincorporated areas in Mills County. (Last Updated: 7/1/2005)

Kossuth County Sanitary Landfill: All cities, excluding Whittemore, and the unincorporated area in Kossuth County; the City of West Bend in Palo Alto County; the Cities of Britt, Corwith, Crystal Lake, Kanawha, and Wooden in Hancock County; and the City of Buffalo Center in Winnebago County. (Last Updated: 7/1/2005)

Landfill of North Iowa: All cities and the unincorporated areas of Cerro Gordo County; the City of Nora Springs in Floyd County; all cities and the unincorporated areas of Franklin County, the Cities of Garner and Klemme in Hancock County; Forest City in Winnebago County; the Cities of Grafton, Hanlontown, Joice, Kensett, Manly, and Northwood in Worth County; and all cities, excluding Eagle Grove, and the unincorporated area in Wright County. (Last Updated: 7/25/2006)

Louisa Regional Solid Waste Agency: All cities, excluding Morning Sun, and the unincorporated area in Louisa County. (Last Updated: 7/1/2005)

Mahaska County Solid Waste Management Commission: All cities, excluding Eddyville, and the unincorporated area in Mahaska County; and four industries (Cargill, Inc., Ajinimoto Food Ingredients, LLC., and Ajinimoto-Heartland LLC., and Wacker Biochem., Corp.) in Monroe County. (Last Updated: 7/1/2005)

Marshall County Solid Waste Management Commission: All cities and the unincorporated area in Marshall County; the City of Collins in Story County; and the City of Whitten in Hardin County. (Last Updated: 9/27/2005)

Metro Waste Authority: All cities and the unincorporated area in Polk County; the cities of Carlisle, Hartford, and Norwalk in Warren County; the cities of Mingo and Prairie City in Jasper County; the city of Jefferson in Greene County and the cities of Adel, Dawson, Linden, Minburn, Perry, Redfield, and Waukee and the unincorporated area in Dallas (Last Updated: 7/1/2005)

Monona County Solid Waste Planning Area: All cities and the unincorporated areas in Monona County. (Last Updated: 7/1/2005)

Montgomery County Landfill Association: All cities and the unincorporated area in Montgomery County. (Last Updated: 9/16/2005)

Newton, City of, Sanitary Landfill: The Jasper County cities of Baxter, Colfax, Kellogg, Lambs Grove, Lynnville, Monroe, Newton, Oakland Acres, Reasnor, Sully and Valeria, and the unincorporated portion of Jasper County. (Last Updated: 6/26/2006)

North Central Iowa Regional Solid Waste Agency: All cities and the unincorporated area in Webster County; all cities and the unincorporated area in Hamilton County; all cities, excluding Bode, and the unincorporated area in Humboldt County; the City of Eagle Grove in Wright County; and the Cities of Rockwell City, Knierim, Pomeroy, and Manson and the North Central Correctional Facility in Calhoun County. (Last Updated: 7/1/2005)

North Dallas Regional Solid Waste Planning Commission: merged with Metro Waste Authority (Last Updated: 7/1/2005)

Northern Plains Regional Landfill Comprehensive Planning Area: All cities, excluding Armstrong, and the unincorporated area in Emmet County; all cities, excluding West Bend, and the unincorporated area in Palo Alto County; all cities, excluding Fonda and Gilmore City, and the unincorporated area in Pocahontas County; the City of Whittemore in Kossuth County; the Cities of Superior and Terrill in Dickinson County; and the City of Bode in Humboldt County; the City of Spencer in Clay County and the unincorporated area in Clay County. (Last Updated: 7/1/2005)

Northwest Iowa Area Solid Waste Agency: All cities, excluding Spencer and the unincorporated area in Clay County; all cities and the unincorporated area in Lyon County; all cities and the unincorporated area in O'Brien County; all cities and the unincorporated area in Osceola County; and all cities and the unincorporated area in Sioux County. The City of Akron in Plymouth County (Last Updated: 1/12/2006)

Ottumwa-Wapello County Solid Waste Commission: All cities and the unincorporated area in Wapello County; and all cities and the unincorporated area in Davis County and the portion of Eddyville in Mahaska County. (Last Updated: 12/19/2005)

Page County Landfill Association: All cities and the unincorporated area in Page County. (Last Updated: 8/18/2005)

PCB (Plymouth, Cherokee, Buena Vista) Solid Waste Agency: All cities and the unincorporated area in Buena Vista County; all cities and the unincorporated area in Cherokee County; all cities and the unincorporated area in Plymouth County;and the City of Fonda in Pocahontas County. (Last Updated: 1/4/2006)

Prairie Planning Area: All cities and the unincorporated area in Adams County; all cities and the unincorporated area in Taylor County; all cities and the unincorporated area in Union County; and the City of Macksburg in Madison County. (Last Updated: 7/1/2005)

Rathbun Area Solid Waste Management Commission: All cities and the unincorporated area of Appanoose County; the City of Seymour and Promise in Wayne County. (Last Updated: 2/27/2006)

Rural Iowa Waste Management Association: All cities and the unincorporated area in Butler County; all cities, (excluding Whitten)and the unincorporated area in Hardin County; the City of Ackley in Franklin County; (Last Updated: 8/2/2006)

Sac County Solid Waste Agency: All cities and the unincorporated area in Sac County. (Last Updated: 3/6/2006)

South Central Iowa Landfill Agency: All cities and unincorporated areas of Madison County, excluding Macksburg; all cities and unincorporated areas of Warren County, excluding Carlisle, Hartford, and Norwalk; and the Dallas County cities of Dallas Center, De Soto, Dexter, Van Meter. (Last Updated: 7/1/2005)

South Central Iowa Solid Waste Agency: All cities and the unincorporated area in Lucas County; all cities and the unincorporated area in Marion County; all cities and the unincorporated area in Monroe County; all cities and the unincorporated area in Poweshiek County; and the City of Victor in Iowa County. (Last Updated: 7/1/2005)

Southeast Multi-County Solid Waste Agency (SEMCO): All cities and the unincorporated area in Jefferson County and the unincorporated area in Keokuk County, all cities and the unincorporated area in Washington County, excluding the cities of Kalona and Riverside, and the cities of Coppock, Olds, and Wayland in Henry County. (Last Updated: 1/17/2006)

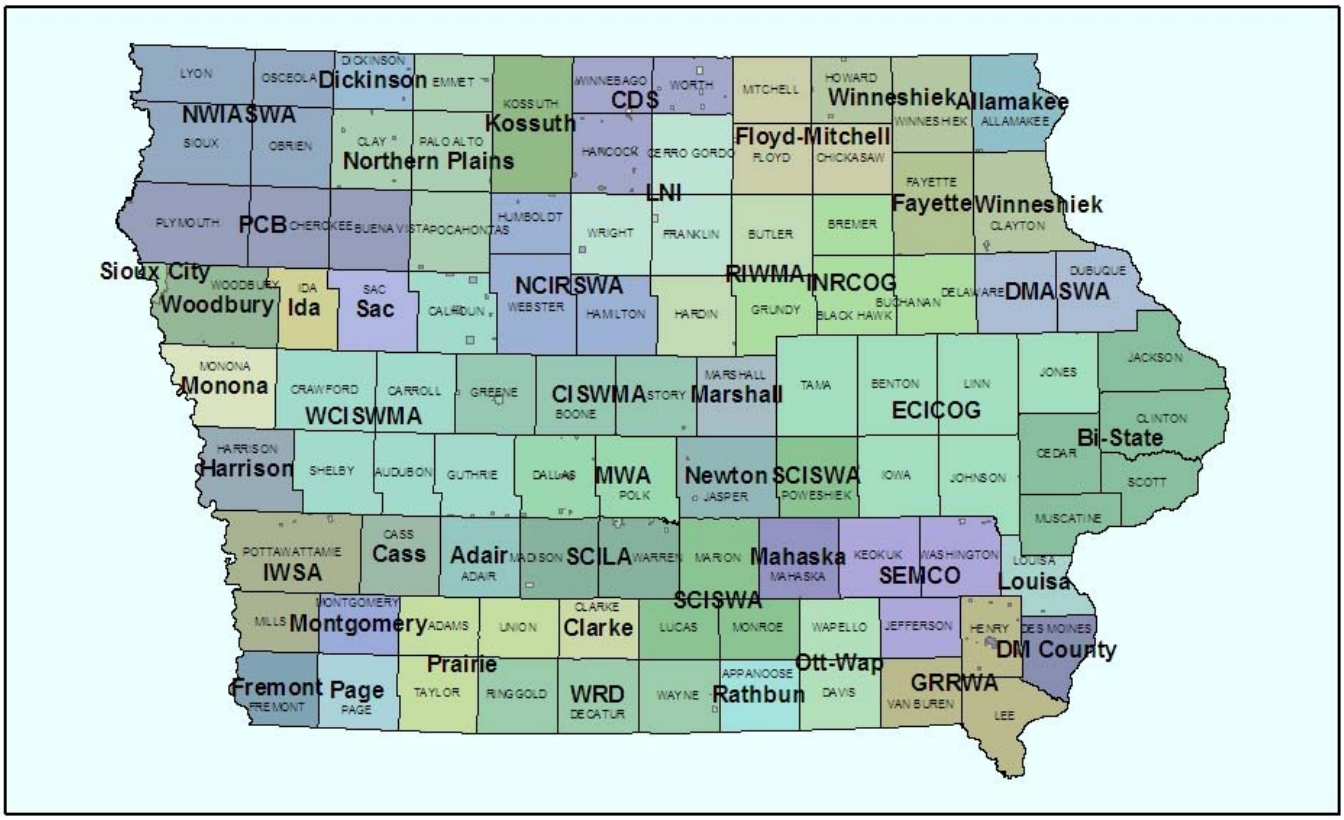
Wayne-Ringgold-Decatur Solid Waste Management Commission: All cities and the unincorporated area in Decatur County; all cities and the unincorporated area in Ringgold County; all cities, excluding Promise City and Seymour, and the unincorporated area in Wayne County. (Last Updated: 7/13/2006)

West Central Iowa Solid Waste Management Association: All cities and the unincorporated area in Audubon County; all cities and the unincorporated area in Carroll County; the Cities of Jolley, Lake City, Rinard, and Yetter, and the unincorporated area in Calhoun County; all cities and the unincorporated area in Crawford County; all cities and the unincorporated area in Shelby County; all cities and the unincorporated areas of Guthrie County, excluding the cities of Casey, Menlo, and Stuart; the city of Linden in Dallas County; and the Cities of Avoca and Minden and 170 specific waste generating sources located in the rural area adjacent to the City of Avoca in Pottawattamie County. (Last Updated: 7/1/2005)

Winneshiek County Solid Waste Agency: All cities, excluding Strawberry Point, and the unincorporated area in Clayton County; all cities, excluding Chester, Elma, and Riceville, and the unincorporated area in Howard County; all cities and the unincorporated area in Winneshiek County; the City of Postville and its environs in Allamakee County. (Last Updated: 7/1/2005)

Woodbury County Solid Waste Planning Area: All cities and the unincorporated areas in Woodbury County, excluding the city of Sioux City. (Last Updated: 7/1/2005)

Comprehensive Solid Waste Planning Areas



APPENDIX D: WASTE REDUCTION AND RECYCLING GOAL PROGRESS METHODOLOGY (IAC 567-101.7)

567—101.7(455B,455D) Base year adjustment method. Using the base year adjustment method, the department will perform a goal progress calculation 12 months prior to the due date of the comprehensive plan update for each planning cycle. This goal progress calculation provided 12 months prior to the due date of the comprehensive plan update is for planning purposes only and is to be used to evaluate progress toward the state's waste volume reduction and recycling goals. Planning agencies may request that the department complete a goal progress recalculation once per fiscal year to resolve any discrepancies and to further evaluate progress toward the state's waste volume reduction and recycling goals. At the time of approval of a comprehensive plan or comprehensive plan update, the department will use the most current complete fiscal year data set available to complete goal progress calculations, which will be used to meet the requirements outlined in subrule 101.13(8) and rule 567—101.14(455B,455D).

101.7(1) The base year adjustment method (see Formula 1) controls for population, employment, and taxable sales to more accurately determine progress toward the state's waste volume reduction and recycling goals. Factors included within the base year adjustment method include:

a. Base year residential waste disposal tonnage – (A).
b. Base year commercial waste disposal tonnage – (B).
c. Base year population data (U.S. Bureau of the Census) - (C).
d. Base year employment data - total nonfarm (Iowa Department of Workforce Development) - (D).
e. Base year taxable sales data (Iowa Department of Revenue) - (E).
f. Base year consumer price index - (F).
g. Most current complete fiscal year data set available for waste disposal tonnage - (G).
h. Most current complete fiscal year data set available for population (U.S. Bureau of the Census) - (H).
i. Most current complete fiscal year data set available for employment - total nonfarm (Iowa Department of Workforce Development) - (I).
j. Most current complete fiscal year data set available for taxable sales (Iowa Department of Revenue) - (J).
k. Most current complete fiscal year data set available for consumer price index - (K).

Formula I

$$100\% - \left[\frac{G}{A\left[\frac{H}{C} + \frac{\left[\frac{I}{D} + \frac{J\frac{F}{K}}{E}\right]}{2}\right] + B\left[\frac{\frac{I}{D} + \left[J\frac{F}{K}\right]}{E}\right]}{2} \right] \times 100\%$$

101.7(2) Planning agencies must document the amount of waste disposed of in both the base year and the most current fiscal year where a complete data set is available. If no changes have occurred within the planning area that would affect the base year, then only data for the most current fiscal year for which a complete data set is available need to be presented in the comprehensive plan update, since information on each planning area's base year tonnage is presented in prior comprehensive plan submittals. Tonnage data sources that each planning agency must identify include, but are not limited to:

a. Landfill(s) within the planning area and its respective service area(s).
b. Transfer station(s) or hauler(s) transporting waste into or out of the planning area for final disposal.
c. Incineration with or without energy recovery of waste within the planning area.
d. Allowable base year adjustment method exemptions, including exceptional events, waste originating from out of state, and solid waste generated outside the planning area.

101.7(3) Waste generated as part of an exceptional event should not negatively affect a planning area's goal progress calculation.

a. Exceptional events include, but are not limited to, such unforeseen disasters as storms, fires, floods, tornadoes, or train wrecks. Exceptional events do not include economic development, derelict housing removal, or other planned activities/demolitions. Written requests to exempt exceptional event debris from goal progress calculations shall be made to the department on the required Quarterly Solid Waste Fee Schedule and Retained Fees Report, DNR Form 542-3276.

Requests for goal progress calculation exemptions must be made within six months after initial disposal of the debris. The determination to exempt exceptional event debris from goal progress calculations shall be made solely by the department and shall not be made independently by individual sanitary disposal projects or planning agencies. Sanitary disposal projects required to remit tonnage fees shall continue to pay solid waste tonnage fees until written notification of fee exemption is received, at

which time any applicable fee credit shall be granted by the department. Upon review of the request, the department will notify the sanitary disposal project and planning agency of the determination in writing or request further documentation.

(1) Exemption requests shall, at a minimum, include:

1. Date(s) of duration of the exceptional event.
2. Type of event (i.e., flood, tornado, combination thereof).
3. Description of affected area(s), including approximate number of buildings and addresses, if available.
4. Type(s) of waste to be exempted.
5. Actual tonnage of debris disposed of during the quarter.
6. Preliminary estimate of the total tonnage to be exempted (i.e., tons already disposed of and potential tons to be disposed of in future quarters).

(2) Additional documentation to verify the exceptional event and the debris it generated may be requested by the department. Failure to submit requested documentation may result in denial of the goal progress calculation or solid waste tonnage fee exemption request(s), including any fee credits authorized by the department. Documentation may include:

1. Protocol used by the sanitary disposal project staff for determining which waste(s) coming into the facility was attributed to the exceptional event.
2. Summary of existing policies to divert storm debris from disposal, as well as the amount of waste(s) diverted.
3. Copies of scale tickets and summary report of scale tickets.
4. Federal Emergency Management Agency (FEMA) reports, if any.
5. Newspaper articles or pictures of affected areas.
6. Supporting documentation indicating estimated remaining tonnage expected as a result of the exceptional event (i.e., supporting documentation from local insurance companies or municipal building inspectors).
7. Contact information for the person(s) responsible for compiling the exceptional event report(s).

b. If the governor of the state of Iowa declares a city or county a disaster area as a result of an exceptional event, the sanitary disposal project or planning agency may request that the debris be exempt from solid waste tonnage fees. A request to waive tonnage fees must be submitted in writing on the facility's or planning agency's letterhead prior to or in the same submittal as the Quarterly Solid Waste Fee Schedule and Retained Fees Report, DNR Form 542-3276. Requests to waive tonnage fees, as provided for in this rule, must be made within 6 months after the initial disposal of the debris. A copy of the proclamation of disaster emergency declared by the governor of the state of Iowa is required in order for approval of tonnage fee exemptions. Any continuing documentation shall be submitted with each Quarterly Solid Waste Fee Schedule and Retained Fees Report, DNR Form 542-3276, within the length of time authorized by the department. Solid waste disposed of outside the window of time authorized by the department shall not be eligible for exemption. To be eligible for an exemption, all exceptional event waste must be disposed of within the following time lines:

(1) For debris clearance and emergency protective measures, as defined by FEMA guidelines, 6 months from the end of the exceptional event.

(2) For permanent repair work, as defined by FEMA guidelines, 18 months from the end of the exceptional event.

Upon written request, with supporting rationale, extensions to these time lines may be granted solely by the department on a case-by-case basis.

c. Contaminated soils removed as part of a brownfield or contaminated site cleanup should not negatively affect a planning area's goal progress calculation. If the contaminated soil is to be disposed of in a sanitary disposal project, the sanitary disposal project or planning agency must request the goal progress exemption in writing, in accordance with the procedures outlined in this rule. Written requests to exempt contaminated soil from goal progress calculations shall be made to the department on the Quarterly Solid Waste Fee Schedule and Retained Fees Report, DNR Form 542-3276. Requests for goal progress exemptions must be made within 6 months after initial disposal of the contaminated soil. The determination to exempt contaminated soil from goal progress calculations shall be made solely by the department and shall not be made independently by individual sanitary disposal projects or planning agencies. The department shall notify the sanitary disposal project or planning agency in writing of the determination or shall request further clarification to make an exemption decision. Failure to submit additional information requested by the department regarding the request to exempt contaminated soil may result in a denial of the goal progress calculation exemption request. Contaminated soil occurrences not eligible for goal progress exemption include, but are not limited to, illegal municipal solid waste disposal sites and contaminated soils formed for the sole purpose of requesting goal progress exemption. Exemption requests shall include, at a minimum, the following:

(1) Contact information of the primary and any other government agency overseeing or involved with site cleanup.

(2) Address of the brownfield or contaminated site.

(3) Date(s) when the site was believed to have been contaminated, if known.

(4) Type of operation and owners of the operation that led to the contamination, if known.
(5) Constituents of concern present in the soil.
(6) Types of miscellaneous waste mixed with the soil, if any.
(7) Appropriate testing for identified contaminants of the contaminated soil.
(8) Actual tonnage of contaminated soil disposed of during the quarter.
(9) Preliminary estimate of the total tonnage to be exempted (i.e., tons of contaminated soil already disposed of and potential tons to be disposed of in future quarters).
(10) Narrative justification to explain why disposal in a sanitary disposal project is the best site cleanup methodology.

APPENDIX E: SUMMARY OF STATE FUNDING FOR SOLID WASTE PROGRAMS

TONNAGE FEE DISTRIBUTION

Fees are paid on each ton of Municipal Solid Waste (MSW) landfilled in Iowa. The base fee is $4.25 per ton; however based on penalties and rewards for the landfill's waste diversion efforts, each landfill pays slightly more or slightly less than the base amount. Landfill operators remit a portion of the fee to the state each quarter. The remaining funds are to be used for planning and environmental protection activities at the local level.

Determining Your Landfill's Tonnage Fee

Planning areas with less than 25% diversion level:

collect	$4.75/ton
remit	$3.30 to DNR
retain	$1.45 ($0.95 for planning, $0.50 for environmental protection)

Planning areas over 25% diversion, under state average, and under 50%:

collect	$3.65/ton
remit	$2.20 to DNR
retain	$1.45 ($0.95 for planning, $0.50 for environmental protection)

Planning areas over 25% diversion, over state average, and under 50%:

collect	$3.65/ton
remit	$2.10 to DNR
retain	$1.55 ($1.05 for planning, $0.50 for environmental protection)

Planning areas over 25% diversion, over state average, and over 50%:

collect	$3.25/ton
remit	$1.95 to DNR
retain	$1.30 ($0.80 for planning, $0.50 for environmental protection)

Fees remitted to DNR are placed in the solid waste account of the Groundwater Protection Fund for DNR Operations and Statewide Program Support.

74¢ DNR Operations, including
- $8,000 - Dept. of Health Transfer
- Waste Alternatives
- Bureau Management
- Solid Waste Permitting
- Comprehensive Planning
- Special Waste Authorization
- Solid waste activities at Field Offices

25¢ Iowa Waste Reduction Center (IWRC)
10¢ Iowa Waste Exchange; includes $30,000 to IWRC for technical support
15¢ Regional Collection Centers (establishment)
5¢ RCC Collection and Transportation (reimbursement for disposal costs)
13¢ Toxic Clean-up Days (additional TCDs or support RCCs {establishment and disposal} & special events for HHM collection); **GIS**; business loan program reimbursements.
5¢ Dept. of Economic Development Transfer (Recycle Iowa Office)
8¢ Waste Reduction and Assistance Program
$1.55 Total

Remainder of the remitted fee is used for:
- $50,000 for Special Waste Authorization Program
- $165,000 Iowa Waste Exchange
- Solid Waste Alternatives Program

Other Funding Sources
- Household Hazardous Waste Retailer Permit Fees
- State Road Use Tax Fund
- Fines and penalties paid to the Department
- EPA grants

Landfill Tonnage Data - FY 1993 - FY 2005

Fiscal Year	Tons Subject to Fee	C&D Tons	Total Tonnage		Total Due	Total Fees Paid	Total Fees Retained	Per Ton	Goal %
FY 1993	2,079,132.58	55,890.87	2,135,023.45	$	8,752,218.68	$6,903,634.62	$1,848,584.06	$3.32	
FY 1994	2,187,859.19	84,668.66	2,272,527.85	$	9,298,401.09	$7,184,121.11	$2,114,279.98	$3.28	28%
FY 1995	2,417,599.15	127,309.74	2,544,908.89	$	10,000,191.14	$7,712,537.02	$2,287,654.12	$3.19	
FY 1996	2,360,704.08	213,661.08	2,574,365.16	$	9,351,870.96	$7,069,867.27	$2,282,003.69	$2.99	
FY 1997	2,462,943.72	254,821.98	2,717,765.70	$	8,732,756.14	$6,578,611.88	$2,154,144.26	$2.67	
FY 1998	2,261,130.20	268,987.00	2,530,117.20	$	8,652,763.51	$6,446,602.84	$2,206,160.67	$2.85	
FY 1999	2,423,798.65	249,140.70	2,672,939.35	$	9,310,817.06	$6,397,326.18	$2,913,490.88	$2.64	
FY 2000	2,531,455.76	334,964.83	2,866,420.59	$	9,756,779.81	$6,665,083.63	$3,091,696.18	$2.63	36%
FY 2001	2,476,306.07	326,797.23	2,803,103.29	$	9,270,013.56	$6,616,625.47	$2,653,388.09	$2.67	
FY 2002	2,359,016.84	288,973.04	2,647,989.87	$	9,282,885.77	$6,242,483.53	$3,040,402.24	$2.65	
FY 2003	2,299,228.18	291,997.78	2,591,225.96	$	8,939,220.95	$5,510,846.46	$3,428,374.49	$2.40	
FY 2004	2,450,433.59	328,802.29	2,779,235.88	$	9,476,608.52	$5,914,759.58	$3,561,848.94	$2.41	29%
FY 2005	2,447,555.94	232,143.08	2,679,699.02	$	9,508,420.14	$5,961,290.64	$3,547,129.50	$2.44	
CHANGE FROM '93 TO '05	18%	415%	26%		9%	-14%	92%	-27%	

SOLID WASTE TONNAGE FEE RECEIPTS Through FY 05

SOLID WASTE ACCOUNT	FY87/88 RECEIPTS	FY89 RECEIPTS	FY90 RECEIPTS	FY91 RECEIPTS	FY92 RECEIPTS	FY93 RECEIPTS	FY94 RECEIPTS	FY95 RECEIPTS	FY96 RECEIPTS	FY97 RECEIPTS
SOLID WASTE DNR	$265,198	$481,512	$617,108	$919,505	$1,201,737	$1,163,396	$1,674,583	$1,970,259	$1,622,586	$1,875,808
SOLID WASTE LANDFILL CLEANUF	$0	$97,902	$125,022	$0	$0	$0	$0	$0	$0	$0
WASTE MGT AUTHORITY DNR	$241,254	$117,483	$150,026	$0	$0	$0	$0	$0	$0	$0
DEPT OF HEALTH	$0	$8,000	$8,000	$8,000	$8,000	$8,000	$8,000	$8,000	$8,000	$8,000
IOWA WASTE REDUCTION CENTER	$50,000	$274,127	$350,060	$463,753	$466,952	$390,467	$564,625	$663,845	$543,529	$627,936
LANDFILL ALTERNATIVES	$0	$979,024	$2,500,431	$2,898,454	$3,290,358	$3,416,574	$3,952,377	$4,531,918	$3,555,311	$3,749,396
SPECIAL WASTE AUTHORIZATION	$0	$0	$0	$0	$0	$0	$0	$50,000	$50,000	$50,000
BY-PRODUCTS AND WASTE SEARCH SERVICE 1	$0	$0	$0	$0	$0	$0	$0	$65,000	$65,000	$65,000
SANITARY DISPOSAL GRANTS	$283,436	$0	$0	$0	$0	$0	$0	$0	$0	$0
PUBLIC WATER SUPPLY GRANTS	$141,718	$0	$0	$0	$0	$0	$0	$0	$0	$0
LOCAL AGENCY GRANTS				$347,814	$0	$0	$0	$0	$0	$0
BY-PRODUCTS AND WASTE SEARCH SERVICE 2					$148,763	$195,233	$225,850	$265,538	$220,809	$255,099
REGIONAL COLLECTION CENTERS					$223,144	$292,849	$338,775	$398,307	$322,720	$372,837
REGIONAL COL CTRS COLLECTION/TRANSPORTATION					$74,381	$97,616	$112,925	$132,769	$101,912	$117,738
TOXIC CLEANUP DAYS					$185,954	$244,041	$282,313	$331,923	$288,750	$333,591
BUISNESS LOANS					$409,098	$536,890	$0	$0	$0	$44,563
DED TRANSFER					$74,381	$97,616	$112,925	$132,769	$101,912	$117,738
WASTE REDUCTION AND ASST PG							$180,680	$212,431	$186,838	$215,853
TOTAL RECEIPTS	$981,606	$1,958,048	$3,750,647	$4,637,526	$6,082,768	$6,442,682	$7,453,053	$8,762,760	$7,067,365	$7,833,559

SOLID WASTE ACCOUNT	FY98 RECEIPTS	FY99 RECEIPTS	FY00 RECEIPTS	FY01 RECEIPTS	FY02 RECEIPTS	FY03 RECEIPTS	FY04 RECEIPTS	FY05 RECEIPTS	FY06 RECEIPTS
SOLID WASTE DNR	$1,787,417	$1,897,229	$1,904,221	$1,783,547	$1,779,048	$1,668,034	$1,807,952	$1,794,486	$1,839,620
SOLID WASTE LANDFILL CLEANUF	$0	$0	$0	$0	$0	$0	$0	$0	$0
WASTE MGT AUTHORITY DNR	$0	$0	$0	$0	$0	$0	$0	$0	$0
DEPT OF HEALTH	$8,000	$8,000	$8,000	$8,000	$8,000	$8,000	$8,000	$8,000	$8,000
IOWA WASTE REDUCTION CENTER	$598,472	$635,076	$637,407	$597,182	$595,683	$558,678	$605,317	$600,829	$615,869
LANDFILL ALTERNATIVES	$3,702,013	$3,715,516	$3,726,097	$3,963,171	$3,782,251	$3,252,698	$3,516,583	$3,241,121	$3,396,090
SPECIAL WASTE AUTHORIZATION	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
BY-PRODUCTS AND WASTE SEARCH SERVICE 1	$65,000	$65,000	$65,000	$65,000	$165,000	$165,000	$165,000	$165,000	$165,000
SANITARY DISPOSAL GRANTS	$0	$0	$0	$0	$0	$0	$0	$0	$0
PUBLIC WATER SUPPLY GRANTS	$0	$0	$0	$0	$0	$0	$0	$0	$0
LOCAL AGENCY GRANTS	$0	$0	$0	$0	$0	$0	$0	$0	$0
BY-PRODUCTS AND WASTE SEARCH SERVICE 2	$243,129	$258,000	$258,947	$242,605	$241,996	$226,963	$245,910	$244,087	$250,197
REGIONAL COLLECTION CENTERS	$355,343	$377,077	$378,460	$354,577	$353,687	$331,715	$359,407	$356,742	$365,672
REGIONAL COL CTRS COLLECTION/TRANSPORTATION	$112,214	$119,077	$119,514	$111,972	$111,691	$104,752	$113,497	$112,655	$115,475
TOXIC CLEANUP DAYS	$317,939	$337,384	$338,622	$317,253	$316,456	$296,798	$321,575	$319,190	$327,180
BUISNESS LOANS	$88,844	$88,844	$88,844	$88,844	$88,844	$88,844	$62,579	$36,313	$36,313
DED TRANSFER	$112,214	$119,077	$119,514	$111,972	$111,691	$104,752	$113,497	$112,655	$115,475
WASTE REDUCTION AND ASST PG	$205,725	$218,307	$219,109	$205,281	$204,766	$192,046	$208,078	$206,535	$211,705
TOTAL RECEIPTS	$7,646,310	$7,888,587	$7,913,736	$7,899,405	$7,809,112	$7,048,280	$7,577,396	$7,247,614	$7,496,596

SOLID WASTE ACCOUNT

- Solid Waste Administration
  - Permitting
  - Comprehensive Planning
  - Legal Services
  - Field Office Solid Waste
- Solid Waste Alternatives
  - SWAP Administration
  - SWAP Grants and Contracts
- Special Waste Authorization (capped at $50,000 per year)
- Regional Collection Centers (RCC) Establishment
  - Grants for RCC establishment and reimbursement operation
- RCC Collection and Transportation
  - Grants for RCC reimbursement
- Waste Reduction and Assistance Program
  - Match for federal grants

Solid Waste Account (6/30/06)				
Year	Receipts	Available	Expense	Balance
FY88	$981,606	$981,606	$306,871	$674,735
FY89	$1,958,048	$2,632,783	$766,035	$1,866,748
FY90	$3,750,647	$5,617,395	$2,004,106	$3,613,289
FY91	$4,637,526	$8,250,815	$4,356,550	$3,894,265
FY92	$6,082,768	$9,977,033	$5,667,872	$4,309,161
FY93	$6,442,682	$10,751,843	$5,591,612	$5,160,230
FY94	$7,453,053	$12,613,283	$5,731,334	$6,881,949
FY95	$8,762,760	$15,644,709	$6,902,701	$8,742,008
FY96	$7,067,365	$15,809,373	$7,834,504	$7,974,869
FY97	$7,833,559	$15,808,428	$6,819,503	$8,988,925
FY98	$7,646,310	$16,635,235	$7,520,076	$9,115,159
FY99	$7,888,587	$17,003,746	$7,645,342	$9,358,404
FY00	$7,913,736	$17,272,139	$7,628,361	$9,643,778
FY01	$7,899,405	$17,543,183	$12,602,204	$4,940,979
FY02	$7,809,112	$12,750,091	$11,977,886	$772,205
FY03	$7,048,280	$7,820,485	$7,402,618	$417,867
FY04	$7,577,795	$7,995,662	$7,221,794	$773,868
FY05	$7,247,614	$8,021,482	$6,911,691	$1,109,791
FY06	$7,496,184	$8,605,975	$6,543,055	$2,062,920

Solid Waste Administration (6/30/06)				
FY	Receipts	Available	Expense	Balance
FY88	$506,452	$506,452	$256,871	$249,581
FY89	$696,897	$946,478	$395,126	$551,352
FY90	$892,155	$1,443,507	$415,706	$1,027,801
FY91	$919,505	$1,947,307	$1,737,689	$219,932
FY92	$1,201,737	$1,421,668	$1,174,578	$247,091
FY93	$1,163,396	$1,410,486	$1,283,622	$126,864
FY94	$1,674,583	$1,801,448	$1,417,833	$383,615
FY95	$1,970,259	$2,353,874	$1,511,034	$842,840
FY96	$1,622,586	$2,465,426	$1,821,199	$644,227
FY97	$1,875,808	$2,520,035	$1,836,651	$683,384
FY98	$1,787,417	$2,470,801	$2,118,934	$351,867
FY99	$1,897,229	$2,249,096	$2,053,978	$195,118
FY00	$1,904,221	$2,099,339	$1,793,704	$305,635
FY01	$1,783,547	$2,089,183	$1,802,217	$286,966
FY02	$1,779,048	$2,066,014	$1,898,013	$168,001
FY03	$1,688,034	$1,856,035	$1,836,035	$0
FY04	$1,807,952	$1,807,952	$1,752,989	$54,963
FY05	$1,794,486	$1,849,449	$1,610,882	$238,567
FY06	$1,839,620	$2,078,187	$1,620,378	$457,809

SWAP (as of 6/30/06)					
FY	SW Receipts	Repayments	Available	Expense	Balance
FY88	$0	$0	$0	$0	$0
FY89	$979,024	$0	$979,024	$58,184	$920,840
FY90	$2,500,431	$0	$3,421,271	$983,858	$2,437,413
FY91	$2,898,454	$0	$5,335,867	$1,679,150	$3,656,717
FY92	$3,290,358	$0	$6,947,075	$3,938,083	$3,008,992
FY93	$3,416,574	$0	$6,425,566	$2,862,366	$3,563,200
FY94	$3,952,377	$0	$7,515,576	$3,344,960	$4,170,616
FY95	$4,531,918	$0	$8,702,534	$3,696,988	$5,005,546
FY96	$3,484,236	$71,075	$8,560,857	$3,805,905	$4,754,952
FY97	$3,597,367	$152,029	$8,504,348	$3,217,653	$5,286,695
FY98	$3,370,417	$331,596	$8,988,708	$2,578,451	$6,410,257
FY99	$3,289,180	$426,336	$10,125,773	$3,442,056	$6,683,717
FY00	$3,140,241	$585,856	$10,409,815	$3,022,563	$7,387,252
FY01	$3,274,904	$688,267	$11,350,423	$7,202,960	$4,147,463
FY02	$2,733,167	$1,049,084	$7,929,713	$7,958,363	-$28,650
FY03	$2,069,916	$1,182,782	$3,224,048	$3,321,357	-$97,309
FY04	$1,945,379	$1,571,204	$3,419,274	$3,363,464	$55,810
FY05	$1,959,643	$1,281,478	$3,296,931	$3,204,722	$92,209
FY06	$1,955,671	$1,440,419	$3,488,299	$2,891,647	$596,652

HOUSEHOLD HAZARDOUS WASTE ACCOUNT

- Administration
- TCDs, HHM educational grants, RCC establishment and reimbursement

Household Hazardous Materials Account (6/30/06)				
Fiscal Year	Receipts	Available	Expense	Balance
FY88	$261,200	$261,200	$106,401	$154,799
FY89	$330,586	$485,385	$368,867	$116,518
FY90	$276,473	$392,991	$310,226	$82,765
FY91	$427,422	$510,187	$269,872	$240,315
FY92	$354,146	$594,461	$352,821	$241,640
FY93	$1,309,059	$1,550,699	$437,093	$1,113,606
FY94	$462,700	$1,576,306	$1,528,970	$47,336
FY95	$239,364	$286,700	$204,521	$82,179
FY96	$306,801	$388,980	$155,555	$233,425
FY97	$462,822	$696,247	$237,323	$458,924
FY98	$264,992	$723,916	$533,647	$190,269
FY99	$343,164	$533,433	$362,223	$171,210
FY00	$459,758	$630,968	$392,252	$238,716
FY01	$344,743	$583,459	$311,203	$272,256
FY02	$296,440	$568,696	$302,483	$266,213
FY03	$326,783	$592,996	$379,595	$213,401
FY04	$595,083	$808,484	$487,093	$321,391
FY05	$302,591	$623,982	$347,826	$276,156
FY06	$714,487	$990,643	$409,305	$581,338
	$530,475	$1,111,813	$47,990	$1,063,823

WASTE TIRE MANAGEMENT FUND ACCOUNTS

- Waste Tire Program Administration (permitting, compliance and enforcement)
- Tires Public Education
- Tire Market Development
- Compliance / Cleanup Program – stockpile abatement

WASTE TIRE FUNDING (as of 6/30/06)						
FY	FUNDING	USES				
	Total	Admin.	Grants to Counties	Market Development	Education/ Outreach	Stockpile Clean-ups
FY94	$515,000	$0	$515,000	$0	$0	$0
FY95	$0	$0	$0	$0	$0	$0
FY96	$0	$0	$0	$0	$0	$0
FY97	$1,500,000	$50,000	$700,000	$400,000	$0	$350,000
FY98	$2,500,000	$50,000	$1,000,000	$400,000	$0	$1,050,000
FY99	$3,500,000	$50,000	$1,000,000	$400,000	$0	$2,050,000
FY00	$3,500,000	$50,000	$1,000,000	$400,000	$0	$2,050,000
FY01	$2,500,000	$50,000	$1,000,000	$400,000	$0	$1,050,000
FY02	$2,000,000	$50,000	$700,000	$400,000	$0	$850,000
FY03	$1,035,566	$310,670	$0	$310,670	$103,557	$310,670
FY04	$1,235,377	$370,613	$0	$370,613	$123,538	$370,613
FY05	$1,032,536	$309,761	$0	$309,761	$103,254	$309,761
FY06	$998,582	$299,575	$0	$299,575	$99,858	$299,575
	$20,317,061	$1,590,618	$5,915,000	$3,690,618	$430,206	$8,690,618

WASTE VOLUME REDUCTION FUND

- Match for federal grants (up to $100,000 per year from fines)

<u>APPENDIX F</u>: MAP OF STATE'S HOUSEHOLD HAZARDOUS MATERIALS REGIONAL COLLECTION CENTER NETWORK

HHM Regional Collection Centers

Regional Collection Centers (RCC) are permanent collection facilities designed to assist the public and small businesses with proper management of hazardous materials.